

REMARKS

Summary

This Amendment is responsive to the Office Action mailed on October 8, 2003. Claims 1, 9, 20, 30-32, 40, 51, 61-64 are amended. Claims 3-5, 29, 34-36, and 60 are cancelled. Claims 1, 2, 6-20, 22-28, 30-33, 37-51, 53-59, and 61-64 are pending.

Claims 1-4, 7, 12, 13, 15, 16, 20, 22, 26, 28, 30, 32-35, 38, 43, 44, 46, 47, 51, 53, 57, 59 and 61 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Garland (US 6,144,772).

Claims 5, 14, 17, 18, 29, 31, 36, 45, 48, 49, 60 and 62 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Garland.

Claims 6, 8-10, 37, 39-41, 63, and 64 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Garland in view of Stark (US 6,389,169).

Claims 19 and 50 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Garland in view of Ligtenberg (US 5,333,212).

Claims 11, 23, 24, 27, 42, 54, 55, and 58 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Garland and "Lossy/Lossless Region-of-Interest Coding Based on Set of Partitioning in Hierarchical Trees" by Atsumi.

Claims 25 and 56 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Garland and Maeng (US 6,476,873).

Applicants respectfully traverse these rejections in view of the amended claims and the following comments.

Response to Interview Summary

Applicants would like to thank the Examiner for the courteous and productive personal interview held on November 12, 2003. Applicants agree with the content of the Interview Summary. As indicated on the Interview Summary form, proposed amendments to the claims were discussed in order to overcome the cited prior art. The claims are amended herein along the lines discussed with the Examiner during the personal interview.

Discussion of Amended Claims

Independent claims 1 and 32 are amended to include the subject matter of claims 5 and 36, respectively. In addition, independent claims 1 and 32 are amended to specify that the areas of interest are identified in a subset of digital images in a sequence of related images. In addition, the word "standard" is deleted from claims 1 and 32 as the Examiner indicated during the November 12, 2003 personal interview that this term was indefinite.

Claims 3-5, 29, 34-36, and 60 are cancelled to avoid duplication of claimed subject matter or inconsistencies in the claimed subject matter.

Claims 9 and 41 are amended to clarify that the sequence of related images comprises a digital motion picture and the group of viewers comprises a statistically

representative subset of an intended audience for the motion picture in order to predict areas of interest of the intended audience (see, e.g., Applicants' specification, page 19, line 20 through page 20, line 7). The amendments to claims 9 and 41 are in accordance with language discussed with the Examiner during the November 12, 2003 personal interview. The Examiner indicated during the personal interview that these amendments would appear to overcome the prior art of record.

Claims 20 and 51 are amended to clarify that the data stream containing the unidentified areas does not contain any information needed to recreate the identified areas of interest. These amendments are made in accordance with the Examiner's suggestion during the November 12, 2003 personal interview. The Examiner agreed that such an amendment would distinguish claims 20 and 51 over the reference frame and difference frames disclosed in Garland.

Claims 30 and 61 are amended to clarify that certain unidentified areas are enhanced to artificially create additional areas of interest from the certain unidentified areas in order to draw a viewer's attention to the additional areas of interest. The amendments to claims 30 and 61 are in accordance with the amendments discussed with the Examiner during the November 12, 2003 personal interview in order to clarify the meaning of the claim. The Examiner agreed that Garland does not disclose Applicants' claimed concept of artificially creating additional areas of interest by enhancing the quality levels of certain unidentified areas to draw a user's attention to that additional area of interest.

Claims 31 and 62 are amended to conform to the amendments to claims 30 and 61, respectively.

Claims 63 and 64 are amended to include the subject matter of amended claims 9 and 41, respectively. As discussed above, the Examiner indicated during the personal interview that these amendments would appear to overcome the prior art of record.

Discussion of Prior Art

Applicants refer the Examiner to the Amendment filed on July 28, 2003 for a complete discussion of Garland and Stark.

Claims 1 and 32

As discussed with the Examiner during the personal interview held on November 12, 2003, Applicants do not agree that Garland discloses identifying areas of interest in a sequence of images (e.g., a motion picture). The disclosure of Garland is concerned only with still images. As discussed with the Examiner, the MPEG encoding mentioned in Garland is modified (by discarding differential information) and applied to a single still image, rather than a sequence of images as claimed by Applicants. It is clear from the context of Garland that Garland is only concerned with encoding single still images, and not a sequence of images as claimed by Applicants.

However, in order to move the prosecution of the present application forward, Applicants' have herein amended independent claims 1 and 32 to specify that the areas of interest are identified in a subset of digital

images in a sequence of related images. In contrast, Garland only discusses single image files, such as an x-ray image or an MRI image. Garland does not disclose identifying areas of interest in at least a subset of digital images in a sequence of related images as claimed by Applicants in claims 1 and 32.

In addition, claims 1 and 32 are amended to include the subject matter of claims 5 and 36, respectively. In particular, claims 1 and 32 are amended to specify that areas of interest for a remainder of images in the sequence are extrapolated from the identified areas of interest of the subset of images. The Examiner has rejected claims 5 and 36 in view of Garland. However, the Examiner merely indicates that Garland discloses that MPEG encoding where a group of pictures is organized in sequence (Office Action, page 3).

Garland does not disclose or remotely suggest identifying areas of interest for a subset of images in a sequence of images, and extrapolating areas of interest for the remainder of images from these identified areas of interest, as claimed by Applicants. In Garland, the areas of interest of a single still frame are identified by the user (Col. 2, lines 38-40). Garland does not disclose identifying areas of interest in a sequence of related images or extrapolating areas of interest from one image to a related image.

Claims 9 and 41

Claims 9 and 41 are rejected as being unpatentable over Garland in view of Stark. Claims 9 and 41 are amended as discussed with the Examiner during the personal

interview to clarify that the sequence of related images comprises a digital motion picture and that the group of viewers comprises a statistically representative subset of an intended audience for the motion picture in order to predict areas of interest of the intended audience. In contrast, Stark discloses identifying areas of interest in a single still image using eye tracking.

The Examiner agreed during the personal interview that Stark does not disclose that the viewers identifying the areas of interest comprise a statistically representative subset of an intended audience for the motion picture in order to predict areas of interest of the intended audience.

Claims 20 and 51

Claims 20 and 51 are rejected as being anticipated by Garland. Claims 20 and 51 are amended to clarify that the data stream containing the unidentified areas does not contain any information needed to recreate the identified areas of interest. These amendments are made in accordance with the Examiner's suggestion during the November 12, 2003 personal interview. The Examiner agreed that such an amendment would distinguish claims 20 and 51 over the reference frame and difference frames disclosed in Garland.

As discussed with the Examiner during the personal interview, Garland discloses an iterative encoding process which produces as an end result a reference frame and a difference frame. The reference frame and the difference frame of Garland are not equivalent to separate data streams each containing different image areas which may be transmitted to a decoder, as claimed by Applicants. In

Garland, different data streams may contain the reference frame and difference frame similar to well known MPEG techniques. However, this is not equivalent to Applicant's much simpler method of sending different areas of the image in different data streams. In Applicants' invention as set forth in claims 20 and 51, the identified areas of interest are transmitted in one data stream and the unidentified areas are transmitted in another data stream. There is no overlap of content between the two data streams as claimed by Applicants, as the data stream containing the unidentified areas does not contain any information needed to recreate the identified areas of interest.

Further, Garland makes no mention of transmitting data streams to a decoder. In Garland, medical images are apparently compressed for storage locally and then decoded when needed at that same location. There is no discussion or suggestion in Garland of encoding different portions of the image for transmission to a decoder in different data streams, as claimed by Applicant.

Claims 30 and 61

Claims 30 and 61 are rejected as being anticipated by Garland. Claims 30 and 61 are amended to clarify that certain unidentified areas are enhanced to artificially create additional areas of interest from the certain unidentified areas in order to draw a viewer's attention to the additional areas of interest. The amendments to claims 30 and 61 are in accordance with the amendments discussed with the Examiner during the November 12, 2003 personal interview in order to clarify the meaning of the claim. The Examiner agreed that Garland does not disclose Applicants'

claimed concept of artificially creating additional areas of interest by enhancing the quality levels of certain unidentified areas to draw a user's attention to that additional area of interest.

As discussed with the Examiner during the personal interview, with Applicants' invention as claimed in claims 30 and 61, an area of an image that would not have normally been considered an "area of interest" to a viewer is now enhanced to attract the viewer's attention to that area. This may be done for artistic or editorial purposes or to attract a viewer's attention to a product in an image for commercial or advertising purposes (as set forth in claims 31 and 62). Garland discloses the enhancement of identified areas of interest, not artificially creating additional areas of interest from otherwise unidentified areas of the image (i.e., areas that would not have been identified as areas of interest before the quality level enhancement).

Claims 31 and 62

Claims 31 and 62 are rejected as unpatentable over Garland. Claims 31 and 62 of the present invention depend from claims 30 and 61. As discussed above in connection with Applicants' claims 30 and 61 additional areas of interest are created by enhancing the quality levels of certain unidentified image areas. These created areas of interest are specified in claims 31 and 62 as being image areas containing at least one of a product or a product name. By enhancing an unidentified image area which contains a product or a product name, an area of interest is artificially created which draws the viewer's attention to the product or name. Such a technique may be used in

commercial advertisements or product placement spots in television and motion pictures to draw the users attention to the product or product name. This technique has a high commercial value. As discussed with the Examiner during the personal interview, Garland does not disclose or remotely suggest the features of Applicants' claims 31 and 62.

Claims 63 and 64

Claims 63 and 64 are rejected as being unpatentable over Garland in view of Stark. Claims 63 and 64 are amended to include the subject matter of amended claims 9 and 41, respectively. As discussed above in connection with claims 1 and 32, the Examiner indicated during the personal interview that these amendments would appear to overcome the prior art of record.

Applicants respectfully submit that the present invention is not anticipated by and would not have been obvious to one skilled in the art in view of Garland, taken alone or in combination with Stark or any of the other prior art references of record.

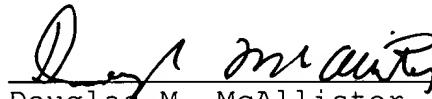
Further remarks regarding the asserted relationship between Applicants' claims and the prior art are not deemed necessary, in view of the amended claims and the foregoing discussion. Applicants' silence as to any of the Examiner's comments is not indicative of an acquiescence to the stated grounds of rejection.

Withdrawal of the rejections 35 U.S.C. § 102(b) and 35 U.S.C. § 103(a) is therefore respectfully requested.

Conclusion

The Examiner is respectfully requested to reconsider this application, allow each of the pending claims and to pass this application on to an early issue. If there are any remaining issues that need to be addressed in order to place this application into condition for allowance, the Examiner is requested to telephone Applicants' undersigned attorney.

Respectfully submitted,

  
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